

American Society for Testing Materials BULLETIN

ISSUED



BI MONTHLY

Greetings

The A.S.T.M. Bulletin extends to the members of the Society heartiest wishes for a Christmas season of good cheer and the hope that Nineteen-Twenty-Nine will bring happiness and prosperity to them in unstinted measure.

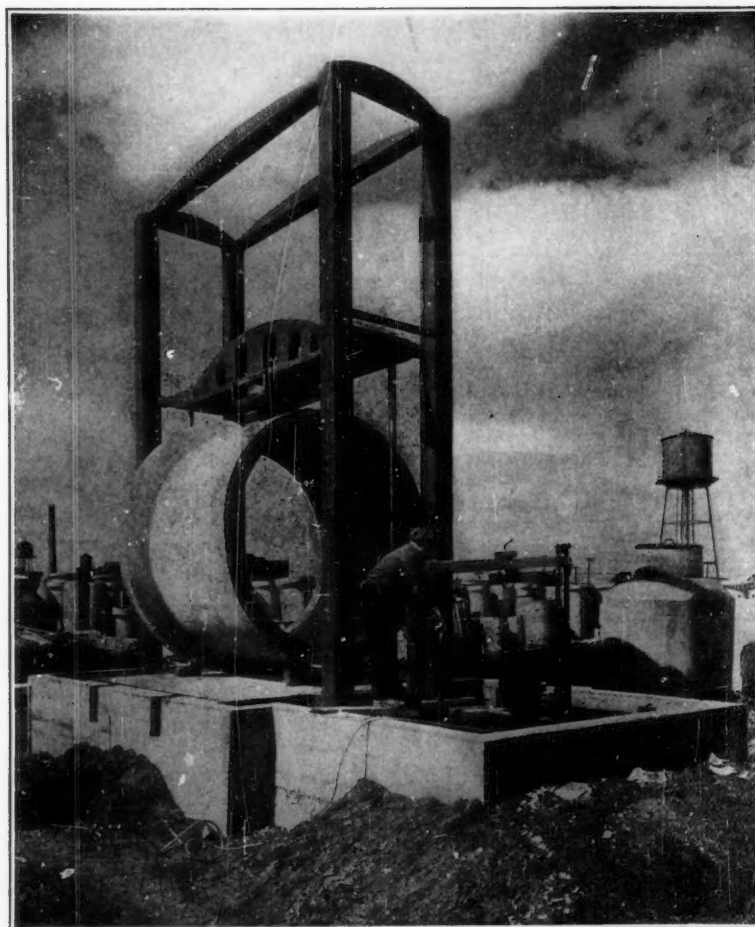


December, 1928

ENGINEERS' CLUB BUILDING
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American Society for Testing Materials



BULLETIN

ENGINEERS' CLUB BUILDING

1315 SPRUCE STREET

PHILADELPHIA, PENNA.

NUMBER 35

December 19, 1928

1929 Annual Meeting in Atlantic City

ATLANTIC CITY has been chosen by the Executive Committee of the Society as the place for holding the 1929 annual meeting. The meeting dates will be June 24-28. The meetings will be held at the Chalfonte-Haddon Hall. This hotel was again chosen since it seems to offer the best facilities of the various hotels in Atlantic City, particularly since the same arrangements as for the 1928 annual meeting can again be made to have the two assembly rooms in one building for the purpose of holding simultaneous sessions. The Vernon Room in Haddon Hall will again be the main meeting room and sessions convening simultaneously with those in the Vernon Room will be held in the Garden Room, adjoining the Vernon Room. This serves to concentrate the activities of the meeting under one roof.

The old portion of Haddon Hall is being rebuilt this year. While this new construction will not be entirely completed in time for the meeting, the Society has been assured that it will be sufficiently well advanced to provide sleeping rooms at least equal in number to those placed at the Society's disposal in other years and that the new dining rooms will be completed. With the new rooms available the hotel should be even more attractive than in former years. We accordingly look forward to a very successful and pleasant annual meeting in 1929.

Most of the members of course are familiar with the usual facilities of the hotel such as for meetings and registration, as well as with the possibilities of Atlantic City for entertainment and enjoyment. Facilities are readily available for golf and tennis and for holding the usual golf and tennis tournaments, and Atlantic City itself offers many attractions and opportunities for entertainment. Golf especially is well provided for, with four courses available: the Northfield Country Club, 10 miles from the city, the Seaview Golf Club at Absecon, the Linwood Golf Club and the new Brigantine Golf Club, designed by Stiles and Van Kleat of Boston.

Shortly after the first of the year further announcements will be made regarding the meeting, including a statement concerning the rates that will apply during the meeting. Plans similar to those in effect last year will be developed to facilitate registration and the making of reservations. Details of these plans will be announced at a later date.

The Secretary's Pacific Coast Trip

The visit of the Secretary-Treasurer to the three Pacific Coast states, California, Oregon and Washington—the first personal contact between the executives of the Society and the Western membership—was made this fall as previously announced. Leaving Philadelphia September 18 the Secretary arrived in Los Angeles September 23 and subsequently met the members in Los Angeles and San Diego, San Francisco (and the surrounding communities), Portland and Seattle, leaving the latter city on October 23. In these four weeks, thanks to the splendid assistance of the members in each district visited, the Secretary met personally nearly one hundred of our West Coast members, and many others who expressed considerable interest in various phases of the Society's work; addressed some twenty groups including four meetings of Society members and their guests; and visited twenty industrial plants and five universities.

In Los Angeles on the evening of September 24 over one hundred members and guests met to discuss with the Secretary the work of the Society and its relation to our membership and the industries of Southern California. During that week the Secretary addressed the Executive Committee of the Clay Products Institute of California, a joint meeting of the Metal Trades Manufacturers Association and the Purchasing Agents Association of Southern California, a luncheon meeting of the University Club, a group of petroleum engineers and a group of cement manufacturers. Opportunity was afforded to meet many of our members personally and to get more intimately their views on the subjects discussed at the September 24 meeting. Trips to various industrial plants were included, with a most interesting visit to the California Institute of Technology. At San Diego, where the Secretary attended the fall meeting of the American Society of Civil Engineers, he met a group of officials in the Engineering Department of the city and discussed A.S.T.M. specification work with them.

Arriving in San Francisco on October 8, the Secretary met that evening with approximately fifty members and guests and during the week addressed the Manufacturers Group of the Oakland Chamber of Commerce, the Golden Gate Chapter of the American Society of Steel Treating, the Foundry Group and Industrial Department of the California Development Association, a joint meeting of the Oakland and San Francisco Paint Clubs and the local section of the

(Continued on page 2)

A WORD OF APPRECIATION TO THE PACIFIC COAST MEMBERS

IT IS A PLEASURE for me to express my appreciation and gratitude to the members of the Society on the Pacific Coast for the many courtesies they extended to me on my recent visit with them. Although contemplated for some little time, the visit was actually made on comparatively short notice, and I am especially indebted to the good friends in Los Angeles, San Diego, San Francisco, Portland and Seattle who in such short time arranged the details of my stay in those five localities and made it possible for me to make many important contacts with industries and executives whose activities are such that the work of the American Society for Testing Materials is of interest to them. From the moment I greeted Los Angeles until I said good-bye to Seattle, I felt particularly at home and enjoyed thoroughly the hospitality that everywhere was extended to me.

For me, both officially as Secretary and personally, the success and pleasure of the visit exceeded my best expectations. I should like to think, and the many cordial assurances I have received, both while there and subsequently, lead me to believe, that our members out on the Coast also considered the visit a worthwhile one from their viewpoint.

C. L. WARWICK,
Secretary-Treasurer.

The Secretary's Pacific Coast Trip

(Continued from page 1)

American Chemical Society. Here again opportunities for personal conferences with members and visits to industrial plants were afforded of which the Secretary took full advantage. Interesting visits were made to the University of California and Leland Stanford University.

Leaving San Francisco October 14, the Secretary arrived at Portland late the next day, stopping off *en route* for a visit to the Oregon State Agricultural College at Corvallis. While the Society has comparatively few members in Oregon, most of them are in the vicinity of Portland and the Secretary met practically all of them. He addressed a luncheon meeting of the Purchasing Agents Association of Oregon and also a well-attended meeting of the Oregon Technical Council.

In Seattle the Secretary met with a group of members on the evening of October 18. A luncheon talk before the local Purchasing Agents Association, and visits to industrial plants and the University of Washington brought to an end a most eventful trip, the results of which may have far-reaching significance in the future development of Society affairs in a national sense.

Throughout the trip the Secretary was enabled to meet leaders in engineering and industrial pursuits, and to become acquainted with the materials and specification problems in such of the West Coast industries as those of metals, especially iron and steel production and fabrication, foundries, oil field supplies; clay products, including brick, tile, and pipe; cement manufacture and concrete products; and petroleum production and refining. Conferences with municipal and state officials, engineers in railroads and public utilities, architects and engineers in construction work, and engineers and technologists engaged in testing and inspecting materials, rounded out a comprehensive picture of possibilities for A.S.T.M. work in the far West on a more intensive and widespread scale. Many worth-while suggestions were made to the Secretary for bringing our distant members into closer touch with Society affairs and extending the influence and membership of the Society. More active participation in the committee work of the Society was emphasized by all with whom this matter was discussed and will merit most careful thought.

The Executive Committee of the Society at its January meeting will receive and discuss a complete report in which will appear various suggestions and recommendations to

bring into realization some of the plans for closer contacts with A.S.T.M. work that were discussed with our members. Further mention of this report will appear in a later issue of the BULLETIN, together with an appropriate discussion of plans.

Two Recommendations Approved

In the meantime, the Executive Committee has approved two recommendations made by the Secretary immediately upon his return from the Coast, namely: (1) to appoint two members from the Pacific Coast states as "correspondent members" of the Committee on Papers and Publications, without responsibility to attend meetings but participating in all of the committee's activities through correspondence and particularly assisting the committee in securing technical papers and discussions representative of the many worth-while studies of materials that are being made on the West Coast; and (2) to appoint suitable committees of members in Los Angeles, San Francisco, Portland and Seattle, for the purpose of extending Society influence and membership among the industries and technical men of those localities, of promoting the usefulness of the Society's work in various ways and, in a sense, of developing the many promising opportunities for this work that were opened up by the Secretary's visit. Many members have expressed willingness to undertake such work for the Society, and these four committees will be appointed and their work begun as soon as possible. These committees will also furnish a most desirable means of direct contact between Society officers and our western members for the discussion of various problems of mutual interest.

As a result of this visit, the Society may look forward to the development by the Executive Committee of policies that will make it possible for members at great distances from the center of Society activities to overcome in so far as possible the recognized handicaps that such distances impose and to get the maximum value from their Society membership, with opportunity for greater participation in the various phases of Society work. In many ways direct participation in some activity or other of the Society materially increases the value of membership to those who thus contribute to the progress of A.S.T.M. work, and it is the Secretary's hope and ambition that every member, wherever located, may be afforded the opportunity of making the maximum possible contribution to the work of the Society.

American Standards Association

Mention was made in the July and September issues of the BULLETIN of a reorganization of the American Engineering Standards Committee whereby the definite federation of national organizations would be known as the American Standards Association, the technical work of approving standards being placed in a Standards Council and the concentration of the administrative and financial responsibility in a Board of Directors composed of twelve industrial executives. This reorganization, through the approval of the new constitution and by-laws, has met with the unanimous approval of the member-bodies, the Executive Committee of the Society having taken action upon this approval at its meeting on October 31. Appointment on the Board of Directors is being made through the designation of certain member-bodies to nominate one of the directors. The Society is one of nine that has been invited to make such a nomination. A special committee of the Executive Committee has been appointed consisting of Messrs. G. W. Thompson, J. H. Gibboney, K. G. Mackenzie and P. D. Merica to make recommendations to the Executive Committee concerning this nomination.

The Executive Committee takes pleasure in announcing the reappointment of Mr. A. A. Stevenson as one of the Society's representatives on the Standards Council of the American Standards Association. The Society's three representatives will accordingly continue to be Messrs. J. A. Capp, F. M. Farmer and A. A. Stevenson. The Secretary-Treasurer and the Assistant Secretary were appointed as alternates.

Mr. F. M. Farmer was reappointed as the Society's representative on the Electrical Advisory Committee of the American Standards Association.

The Society has been cooperating actively in the work of the American Standards Association, and on behalf of the sectional committees for which the Society is sponsor or joint sponsor a number of specifications and methods of test have been submitted to the American Standards Association for approval either as American Standard or Tentative American Standards as follows:

Standard Specifications for Hard-Drawn Copper Wire (B 1 - 27)
Standard Method of Test for Water in Petroleum Products and Other Bituminous Materials (D 95 - 28)
Standard Method of Test for Water and Sediment in Petroleum Products by Means of Centrifuge (D 96 - 28)
Standard Method of Test for Steam Emulsion of Lubricating Oils (D 157 - 28)
Standard Method of Test for the Determination of Bitumen (D 4 - 27)
Standard Method of Test for Penetration of Bituminous Materials (D 5 - 25)
Standard Method of Float Test for Bituminous Materials (D 139 - 27)
Tentative Specifications for Cotton Rubber-Lined Fire Hose for Public and Private Fire Department Use (D 296 - 28 T).

Mechanical Standards Advisory Council

Discussions have been taking place during the past two years looking toward the organization of a Mechanical Standards Advisory Council, advisory to the mechanical industries and American Standards Association. At a meeting held on December 3 the council was formally organized with the following functions:

1. To endeavor to obtain, at the request of any interested group, the desired cooperation of organizations in any standardization project in the mechanical field;
2. To confer with any organization in the mechanical field interested in or carrying on work which eventually may be presented for action under the Rules of Procedure of the American Standards Association;

3. To advise the American Standards Association on questions of policy relating to standardization applying to Products of the Mechanical Industries;

4. To serve as a general coordinating medium in the mechanical field, within the scope of the Constitution, By-laws and Rules of Procedure of the American Standards Association;

5. To consider:

- (a) The desirability and practicability of standardization projects within its field;

- (b) The order in which standards shall be developed;

- (c) The scope of projects;

- (d) Sponsorships for the necessary sectional committees; and

- (e) The adjustment of conflicts and the clearing up of ambiguities; and

6. To follow up and expedite work in the development of standards.

The Council will consist of representatives of member organizations with an Executive Committee of seven such representatives. Sixty-seven organizations have already been nominated or elected as members of the Council.

Committee E-9 on Correlation of Research

A meeting of Committee E-9 was held at the Society headquarters on December 12, to review the status of the many research projects that are being carried on by the committees of the Society and several joint committees. Special note was taken of the progress being made in the study of yield point of structural steel, the corrosion tests of Committees A-5 and B-3, the die-casting alloy investigation of Committee B-2, the program of cement testing of Committee C-1, and the testing of rubber products by Committee D-11. Among the joint committee activities the research programs of the Joint Committee on Effect of Temperature upon the Properties of Metals, Joint Committee on Effect of Phosphorus and Sulfur in Steel, and the Sectional Committee on Specifications for Cast-Iron Pipe were noted. The latter committee, as a necessary step in its ultimate program of developing quality and dimensional standards for cast-iron pipe, is sponsoring a large program of tests of cast-iron pipe under both internal pressure and external load, which are being carried out at the University of Illinois and Iowa State College. Studies of corrosion of cast-iron pipe in water are being made at the Massachusetts Institute of Technology under the auspices of this committee.

For several years the committee has been working to bring about suitable studies of the iron-chromium-nickel alloys under the auspices of the Society and it is believed that the forthcoming organization of Committee A-10 on that subject will be a splendid step forward for the Society in covering that field of work.

The committee has been giving consideration to the establishment of means under Society auspices for concerted study of the problem of wear testing, believing that for metals alone the subject of wear is perhaps, from an economic point of view, second in importance only to corrosion.

The committee discussed the whole matter thoroughly, making for the sake of convenience the distinction between wear under lubrication and the so-called abrasive wear, such as is encountered in grinding and crushing operations, wear of walk-way and roadway surfaces and the like. The committee felt that the latter should be made the subject of further study and discussion and will attempt to arrange for such discussion in an appropriate group of members of the Society.

AMERICAN SOCIETY FOR TESTING MATERIALS BULLETIN

Issued Bi-Monthly

Engineer's Club Building, 1315 Spruce St., Philadelphia, Pa.

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Number 35

December 19, 1928

Inventories and Balance Sheets

THIS is traditionally the time of inventories and balance sheets—of “stock taking” and statements of assets and liabilities. As the year draws to a close it is natural for us all to review the accomplishments and happenings of the past twelve months, to “point with pride” and perhaps to “view with alarm,” and, not the least, to gain inspiration from the past for the plans of the present and the dreams of the future. And Nineteen Twenty-Eight has indeed been an eventful year for the American Society for Testing Materials. Since the outstanding accomplishments of this year will be told in the January “Review Number” of the BULLETIN, we shall refrain even from mention of the principal happenings.

But we do want to comment on “Assets” and “Liabilities.” Not in terms of finances, although that is quite important too and for 1928 reflects a healthy financial condition of Society affairs. Instead, we mean assets and liabilities on a broader, more fundamental basis. Consider the real, basic assets of the Society—what are they? *First*, a membership of 4300 throughout the entire world, following keenly, through our publications, and lending their support to the advancements in knowledge of engineering materials. *Second*, a committee organization with a splendid *esprit de corps*, built up over the past thirty years, comprising now 45 standing committees (with four more in course of organization) and three research committees, upon which are serving over 1300 members, devoting their time, experience and money in the development of our specifications and methods of test and in carrying on nearly seventy separate research projects and many more investigations incident to the writing of test methods. *Third*, there is a “good will” among technical men, educational and governmental institutions and the industries of the country that in itself is one of the largest assets of our Society. It may perhaps best be expressed by the *desire* of industry and technology to have the Society engage in investigative and standardization work, to support

that work morally and financially and as a participant, and to use the results when they become available. The annual voluntary offering of technical papers and discussions in a volume beyond the Society's present capacity to publish is another evidence of this “good will.”

When we come to consider liabilities, there is primarily the responsibility of carrying on the purposes for which the Society is organized, of discharging the obligations it has assumed for promoting knowledge of materials and standardizing specifications and tests, and of maintaining the high standards of its work and its publications that have given it virtual leadership in the field of engineering materials. All of the work now under way in the Society is a definite liability, in that it is an obligation to our membership that must be fulfilled. There is the further obligation of using our expanding assets in extending the scope of the work, entering new fields as they open up for development and giving increased service to our members and to the industries of the country.

And this brings us to the fact that the growth of our assets of membership, organization and good will over the years of the Society's existence has provided the “surplus” over liabilities and the “working capital” for continued expansion of our technical activities and the building up of a living, virile organization that we like to feel has a definite entity, to which new members and new activities are naturally attracted. In the last analysis, this is the real criterion of the success of the Society and measured by it we can look forward confidently to continued growth and success in the work to which our energies are here dedicated.

Publications

Book of Tentative Standards.—The 1928 Book of A.S.T.M. Tentative Standards has now been published and distribution has been made to all those who ordered copies. This book contains the 185 tentative specifications and methods of test now in effect. While the 1928 Proceedings will contain those of the tentative standards submitted or revised at the 1928 annual meeting, the Book of Tentative Standards offers a compilation of all of the tentative standards of the Society and thus serves as a convenient reference work complementary to the Book of Standards.

Index to Standards and Tentative Standards.—Announcement was made in the July issue of the BULLETIN of a combined index of standards and tentative standards which the Society contemplated publishing annually. The preparation of this index was prompted by the great increase in the number of standards and tentative standards in recent years and the combined index should serve to greatly facilitate the reference to these standards by giving the volume reference in which the individual standards appear. The index comprises a pamphlet of approximately 100 pages. It is being distributed with this BULLETIN to all members in good standing. This publication has been made possible by the increased financial support of the Society's work through the company membership dues.

1928 Proceedings.—The Proceedings of the 1928 annual meeting are now in press. Part I, containing committee reports and including all revised and newly issued tentative standards will comprise approximately 1150 pages, and Part II, containing the technical papers and discussions, will comprise approximately 900 pages. The makeup on both parts is well advanced and press work is already under way. It is expected that distribution will be made early in January.

Application Blanks for Membership

The attention of the members is called to the enclosed application blank for membership. It is urged that the members keep in mind the desirability of increasing the Society's membership through the addition of those whose interests lie in the fields covered by the Society's activities and that the application blank be put to use whenever the opportunity offers. Additional blanks are available upon application to the Secretary-Treasurer, as well as booklets of information and other material which the members may believe to be of service in interesting prospective members.

In this connection members may wish to secure copies of an article which, as mentioned in a recent BULLETIN, appeared in *The Annals of the American Academy of Political and Social Science*, describing "The Work in the Field of Standardization of the American Society for Testing Materials." A limited supply of reprints is available and copies will be furnished on request as long as the supply lasts.

Committee E-6 on Papers and Publications

The Papers Committee met at the Society headquarters on December 10 to review the publication work of the year, discuss questions of publication policy and lay the ground work for the program of the coming annual meeting.

Some portions of the program for 1929 are already well defined. A comprehensive Symposium on Mineral Aggregates is being arranged by a special committee advisory to Committee E-6, consisting of Messrs. R. W. Crum, chairman, A. T. Goldbeck, F. H. Jackson, H. J. Love, W. E. Rosengarten and Stanton Walker. The Symposium will include approximately twelve papers and will probably be allotted two sessions at the annual meeting.

A Symposium on Cast Iron sponsored by Committee A-3 on Cast-Iron is also being planned under the immediate direction of a committee consisting of Messrs. Hyman Bornstein, chairman, J. W. Bolton, F. B. Coyle, E. J. Lowry and J. T. MacKenzie.

Committee E-6 now has before it quite a few definite offers of papers, some of which have been provisionally accepted; and many recommendations and suggestions for topics for discussion are being considered. Respecting most of these, final action will be deferred until the February meeting of the committee at which formal offers of papers from the members will be canvassed.

The form upon which offers of papers may be made will be mailed to each member of the Society on December 31. *Be on the lookout for it.* This is a splendid opportunity for members to bring before their associates in the Society the results of investigation and study of materials and thus contribute to the success of the annual meeting.

Committee E-6 is studying the possibilities of publishing a special collection of A.S.T.M. specifications and tests for student use, especially in connection with class room and laboratory work in engineering materials. A special committee under the chairmanship of Prof. A. N. Johnson is being appointed to study this proposal.

The committee took cognizance of the fact that at times written discussions presented at the annual meeting are so voluminous that they take considerably more than the stipulated five minutes for presentation, even requiring a greater time for presentation than that normally allotted to papers themselves. The committee decided that in such cases it will require that written discussions be presented in abstract.

Earlier Distribution of Tentative Standards

With the recent distribution of two methods of test relating to coal and coke, prepared by our Committee D-5 on Coal and Coke for submission with its next annual report, a movement has been started to bring about earlier consideration of tentative standards and to speed up to that extent our usual standardization procedure. Other committees may wish to follow this plan whereby proposed tentative standards are put in type and distributed as soon as the committee has conducted a letter ballot on their submission, without waiting until the report of the committee is finally prepared for preprinting in advance of the annual meeting. In this way as much as nine months can be saved in bringing proposed tentative standards to the attention of the interested members and securing their criticisms and comments.

Translations of A.S.T.M. Standards

The members will be interested to know that seven industrial standards have recently been issued by the Bureau of Foreign and Domestic Commerce comprising translations of A.S.T.M. Standards into the Spanish language, as follows:

- Industrial Standard No. 10 (A.S.T.M. Designation: A 14-27): Specifications for Carbon-Steel Bars for Railway Springs.
- Industrial Standard No. 11 (A.S.T.M. Designation: A 18-28): Specifications for Carbon-Steel and Alloy-Steel Forgings.
- Industrial Standard No. 12 (A.S.T.M. Designation: A 19-27): Specifications for Quenched-and-Tempered Carbon-Steel Axles, Shafts, and Other Forgings for Locomotives and Cars.
- Industrial Standard No. 13 (A.S.T.M. Designation: A 20-28): Specifications for Carbon-Steel Forgings for Locomotives.
- Industrial Standard No. 14 (A.S.T.M. Designation: A 21-27): Specifications for Carbon-Steel Car and Tender Axles.
- Industrial Standard No. 20 (A.S.T.M. Designation: A 53-27): Specifications for Welded and Seamless Steel Pipe.
- Industrial Standard No. 62 (A.S.T.M. Designation: A 62-16): Specifications for Elliptical Steel Springs for Railways.

Richard L. Humphrey

1869-1928

On November 2 the Society lost through death Mr. Richard L. Humphrey, one of its extremely active and loyal members. Mr. Humphrey was born October 18, 1869, at Marblehead, Mass. He was graduated as a civil engineer from the University of Pennsylvania in 1891, having received his preparatory education in the public schools of Philadelphia. He was designer and engineer in charge of the Philadelphia municipal testing laboratories. In 1903 he entered consulting work, specializing in the inspection of materials and the examination of cement properties and, in addition to acting as advisor to several cement companies, he was engineer in charge of structural materials testing laboratories at St. Louis, Pittsburgh, and Atlantic City for the U. S. Bureau of Mines. During the War Mr. Humphrey served as the Director of the Building Materials Division of the Council of National Defense.

He took a very active part in technical society affairs, having been a member and holding office in many organizations. He was the first secretary of the American Section of the International Association for Testing Materials, which subsequently became the American Society for Testing Materials. In the latter Society he served on many of its committees, including its Committee on Cement (secretary from 1902 to 1915), and on Reinforced Concrete (secretary from 1903 to 1917 and since then chairman). One of his most important assignments was that of chairman of the Second Joint Committee on Standard Specifications for Concrete and Reinforced Concrete.

An indefatigable worker, his presence will be keenly missed in many positions of honor and of service.

COMMITTEE ACTIVITIES

Space in the BULLETIN is reserved for items of interest about committee activities. Officers of committees are invited to prepare information of suitable character for publication.

Specifications as Basis of Price Quotations

A special committee of the Society on Promotion of General Use of Specifications for Copper Alloys in Ingot Form was organized, under the chairmanship of Past-President G. H. Clamer, at a meeting in Cleveland on November 26. The purpose of the committee is "to study and promote the use of specifications covering copper alloys in ingot form as the basis of price quotations in technical and trade journals, with authority to recommend to the appropriate standing committee of the Society such revision in the A.S.T.M. specifications affected as its studies may indicate to be desirable."

The committee is formed of representatives of producers, consumers and the trade papers making a practice of giving quotations on copper alloys, and is as follows:

PRODUCERS

G. H. Clamer (chairman), Ajax Metal Co., Philadelphia, Pa.
Wm. Romanoff, H. Kramer and Co., Chicago, Ill.
C. B. White, Non-Ferrous Ingot Metals Institute, Philadelphia, Pa.

CONSUMERS

F. L. Wolf, Ohio Brass Co., Mansfield, Ohio.
J. W. Bolton, Lunkenheimer Co., Cincinnati, Ohio.
W. B. Price, Scovill Manufacturing Co., Waterbury, Conn. (also representing War Dept.).
L. B. Case, Society of Automotive Engineers, General Motors Corporation, Detroit, Mich.

TRADE PAPER REPRESENTATIVES

D. M. Avey, Editor, *The Foundry*, Penton Publishing Co., Cleveland, Ohio.
W. S. Doxsey, Editor, *Daily Metal Trade*, Penton Publishing Co., Cleveland, Ohio.
S. P. Trench, Vice-President, *American Metal Market*, New York City.
J. Zimmerman, Editor, *Daily Metal Reporter*, New York City.
Adolph Bregman, Managing Editor, *The Metal Industry*, New York City.
C. L. Warwick, Secretary-Treasurer, American Society for Testing Materials, Philadelphia, Pa.

Originally conceived as a means of promoting the usefulness of the Society's work in this field, it was evident from the discussions of this committee that a study should be made of the many specifications for copper alloys, including those of producers, consumers and technical societies, in order that if possible the number of these specifications be reduced without detriment to the quality of the products, and to realize the full economic benefits that will accompany a reduction in the large number of brass and bronze compositions now called for. Accordingly the committee, with the cooperation of the Non-Ferrous Ingot Metals Institute, has undertaken the preparation of a comparative abstract of the requirements of all available specifications for copper alloys. It is believed that this study will show the possibility of considerable simplification in the compositions of these alloys. It is hoped that the work will lead to a more general adherence by both producers and consumers to a minimum number of acceptable compositions.

The work of the committee is receiving the active support of the Non-Ferrous Ingot Metals Institute (representing approximately 90 per cent of the production of copper alloy ingot metal) which has undertaken to secure through its members a compilation of specifications of individual consumers, with a statement of the relative amounts of the alloys furnished to various specifications and with mention of the uses, where known, of the alloys furnished. In addition,

Schedule of Committee Meetings

DATE	COMMITTEE	PLACE
January 9-11	A-1 on Steel	Philadelphia
January 18	Executive Committee	Philadelphia
January	D-2 on Petroleum Products and Lubricants	Baltimore, Md.
January	Joint Committee on Physical Properties of Concrete Reinforcement Bars	Philadelphia
February	C-8 on Refractories	Chicago

specifications of the A.S.T.M., Society of Automotive Engineers, American Railway Association and Federal Specifications Board will be included in the committee's compilation.

Mr. N. K. B. Patch, of the Lumen Bearing Co., chairman of the sub-committee, of Committee B-5 on Copper and Copper Alloys, having charge of cast alloys, has accepted an invitation to become a member of this committee thus providing an important contact, since any revisions of A.S.T.M. specifications for these alloys that may come out of this general survey must be handled through Committee B-5. The Federated Metals Corporation has also been extended an invitation for membership on the special committee.

Spring Group Meeting

Plans are now being developed for the group committee meeting to be held next March, and the advice of the standing committees concerned is being sought to determine which location would be the most satisfactory. In view of the fact that the last group meeting was held in the East in Washington, and with both the 1928 and 1929 annual meetings in the East at Atlantic City, it has been suggested that the next group meeting be held in the Middle West, with Detroit and Chicago as possibilities.

These spring meetings have been quite successful, the last few especially having been quite large, with over 400 members in attendance.

Yield Point of Structural Steel

A series of tests has been initiated by the Research Committee on Yield Point of Structural Steel: (a) to ascertain the range in tensile yield point of structural specimens cut from common structural shapes; (b) to determine the relationship between the yield point and the ultimate strength; (c) to determine the proper location in shapes from which specimens should be cut in order to furnish reliable information on yield point, ultimate strength, and ductility of the shape. About 250 specimens are now being cut from light and heavy plates, angles, girder-beams and H-columns for these tests.

A shorter series of tests, has been planned to compare the effects of speed of loading on tensile yield point of structural steel tested in a screw-gear-driven lever machine with data from an hydraulic machine.

Reorganization of Society's Committee Work in Field of Non-Ferrous Metals and Alloys

Three New Standing Committees and Coordinating Committee on Non-Ferrous Metals Being Organized on Recommendation of Committee B-2

The formation of three new standing committees in the field of non-ferrous metals and alloys and the organization of a joint committee to coordinate the activities of the seven committees of the Society that will soon be functioning in that field, is one of the outstanding developments of the past few months. Some time ago Committee B-2 on Non-Ferrous Metals and Alloys, which until the organization within recent years of Committees B-3 and B-4 has had direct charge of all the Society's standardization work in the non-ferrous metals field save that of copper wire in charge of Committee B-1, recommended to the Executive Committee that the Society's activities in the fields of copper alloys, white metals and the light metals and alloys had in its opinion reached a stage of development where it would be desirable to organize them on a separate standing committee basis, leaving in the jurisdiction of Committee B-2 all other standardization work now in its charge, together with responsibility for general supervision of Society work in this field, and the developing of new projects from time to time. This recommendation of its various aspects was studied by the Executive Committee in consultation with the officers of Committee B-2 and the decision was reached to form three new standing committees along the general lines recommended and a coordinating committee on Non-Ferrous Metals and Alloys.

Committee B-5 on Copper and Copper Alloys

A new standing committee has been formed from the membership of Sub-Committees II and III of Committee B-2, dealing respectively with wrought metals and alloys and sand-cast metals and alloys. Dr. C. H. Mathewson, Professor of Metallurgy, Yale University, has been designated by the Executive Committee to serve as temporary chairman, and Mr. N. L. Mochel, Metallurgical Engineer, Westinghouse Electric and Manufacturing Co., is serving as temporary secretary. It is tentatively planned that the committee will take over bodily the work of the two above-mentioned sub-committees of Committee B-2, and their chairmen, Mr. W. R. Webster, Bridgeport Brass Co., and Mr. N. K. B. Patch, Lumen Bearing Co., have consented to continue their chairmanships pending formal organization.

The present personnel of the committee, arranged alphabetically, with provisional classification into producers, consumers and general interests, is as follows:

- P Ajax Metal Co., The.
G. H. Clamer, President and General Manager, Philadelphia, Pa.
- C Allis-Chalmers Manufacturing Co.,
R. S. MacPherran, Chief Chemist, West Allis, Wis.
- P American Brass Co.,
W. H. Bassett, Technical Superintendent and Metallurgist, Waterbury, Conn.
L. P. Weibert, Metallurgical Engineer, Waterbury, Conn.
- P American Foundrymen's Association,
Fred Wolf, 222 W. Adams St., Chicago, Ill.
- C American Marine Standards Committee, Washington, D. C.
- C Baldwin Locomotive Works, The,
J. A. Hance, Engineer of Tests, Philadelphia, Pa.
- P Baltimore Copper Smelting and Rolling Co.,
E. W. Rouse, Treasurer and General Superintendent, Canton, Baltimore, Md.
- P Bolton, J. W., Chief Chemist and Metallurgist, The Lunkenheimer Co., Cincinnati, Ohio.
- P Bridgeport Brass Co.,
W. Reuben Webster, Vice-President, Bridgeport, Conn.
- P Bunting Brass and Bronze Co., The,
E. R. Darby, Metallurgist, Toledo, Ohio.
- P Calumet and Hecla Consolidated Copper Co.,
R. L. Agassiz, Chairman, Boston, Mass.
- P Chase Metal Works,
D. K. Crampton, Metallurgist, Waterbury, Conn.

- C Crowe, J. J., Engineer in Charge, Apparatus Research and Development Dept., Air Reduction Sales Co., Jersey City, N. J.
- GI Corse, W. M., Metallurgical Engineer, Washington, D. C.
- P Dix, E. H., Jr., Metallurgist, Research Bureau, Aluminum Company of America, New Kensington, Pa.
- C Foster Wheeler Corporation,
G. C. Holder, Chemist, Carteret, N. J.
- C Fulweiler, W. H., Chemical Engineer, United Gases Improvement Co., Philadelphia, Pa.
- C General Electric Co.,
J. A. Capp, Engineer, Testing Laboratory, Schenectady, N. Y.
- C General Motors Corporation,
A. J. Hall, Detroit, Mich.
- P Kramer and Co., H.,
William Romanoff, Technical Superintendent, 2119 S. Loomis St., Chicago, Ill.
- GI Lasier, E. L., Consulting Engineer, Box 304, Oakland, Calif.
- GI Mathewson, C. H., Professor of Metallurgy, Yale University, New Haven, Conn.
- C McKinney, P. E., Superintendent, Forge and Foundry Division, U. S. Naval Gun Factory, Washington, D. C.
- P Ohio Brass Co., The,
L. W. Olson, Factory Manager, Mansfield, Ohio.
- P Patch, N. K. B., Secretary, Lumen Bearing Co., 197 Lathrop St., Buffalo, N. Y.
- P Price, W. B., Chief Chemist and Metallurgist, Scovill Manufacturing Co., Waterbury, Conn.
- P Raritan Copper Works,
A. C. Clark, Perth Amboy, N. J.
- P Rome Brass and Copper Co.,
C. H. Marsland, Chemist, Rome, N. Y.
- P Staples, H. A., Vice-President, British-American Metals Co., Inc., and Consulting Engineer, American Copper Products Corporation, Plainfield, N. J.
- P Thompson, J. F., Manager, Operating Department, International Nickel Co., New York City.
- GI U. S. Bureau of Standards, H. J. French, Washington, D. C.
- C U. S. Navy, Bureau of Engineering,
Design Division, Washington, D. C.
- C Western Electric Co., Inc.,
W. A. Strew, Hawthorne Station, Chicago, Ill.
- C Westinghouse Electric and Manufacturing Co.,
A. R. MacGragor, Material and Process Division, East Pittsburgh, Pa.
N. L. Mochel, Metallurgical Engineer, Lester Station, Philadelphia, Pa.
- GI White, A. E., Professor Metallurgical Engineering and Director of Department of Engineering Research, University of Michigan, Ann Arbor, Mich.
- C Williams, H. M., Chemical and Metallurgical Engineer, Frigid-Aire Corporation, Dayton, Ohio.

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It is planned to hold the formal organization meeting of the new committee in February during the meeting of the American Institute of Mining and Metallurgical Engineers.

Committee B-6 on Tin, Lead and Zinc-Base Alloys

The new Committee B-6 will take over the work of Sub-Committee IV, of Committee B-2, on White Metals, including particularly specifications for babbitt and solder metals. The consideration of specifications for type metal will be within the scope of the new committee and there is evidence of some desire on the part of producers and users of type metal for the Society to consider the development of specifications. The personnel of Sub-Committee IV of Committee B-2 will be the nucleus of the membership of the new standing committee. The preliminary steps for the organization of this committee are being taken.

Committee B-7 on Light Metals and Alloys

The new Committee B-7 takes over the activities of Sub-Committee VIII, of Committee B-2, on Light Metals and Alloys. Each member of that sub-committee was invited to serve on the new standing committee and Mr. J. B. John-

(Continued on page 8)

Committee B-7 on Light Metals and Alloys

(Continued from page 6)

son, Chief, Material Section, Air Corps, Wright Field, Dayton, Ohio, was appointed by the Executive Committee to the temporary chairmanship. The personnel of the committee as thus determined for the purpose of organization is as follows:

- P Anderson, R. J., Vice-President, in Charge of Production, Fairmont Manufacturing Co., Fairmont, W. Va.
- P Bausch Machine Tool Co.,
R. W. Daniels, Vice-President, Springfield, Mass.
- C Bell Telephone Laboratories, Inc.,
H. A. Anderson, New York City.
- P Bohn Aluminum and Brass Corporation,
V. Skillman, Metallurgist, Detroit, Mich.
- C Day, C. H., Vice-President, Gates-Day Aircraft Corporation,
Paterson, N. J.
- P Dix, E. H., Jr., Metallurgist, Research Bureau, Aluminum Company of America, New Kensington, Pa.
- P Dow Chemical Co., The,
J. A. Gann, Metallurgist, Midland, Mich.
- C General Electric Co.,
J. A. Capp, Engineer, Testing Laboratory, Schenectady, N. Y.
- P Jeffries, Zay, Consulting Metallurgist, Aluminum Company of America, Cleveland, Ohio.
- C Johnson, J. B., Chief, Material Section, Materiel Division, Air Corps, U. S. A., Wright Field, Dayton, Ohio.
- P Johnston, R. L., Metallurgical Engineer, New York City.
- GI Knerr, H. C., Consulting Metallurgical Engineer, Philadelphia, Pa.
- C McKinney, P. E., Superintendent, Forge and Foundry Division, U. S. Naval Gun Factory, Washington, D. C.
- P National Smelting Co., The,
W. M. Weil, Treasurer, Cleveland, Ohio.
- P Pannell, E. V., Consulting Engineer, The British Aluminum Co., Ltd., New York City.
- C U. S. Navy, Bureau of Construction and Repair, Washington, D. C.
- C U. S. Navy, Bureau of Engineering,
Design Division, Washington, D. C.
- C Westinghouse Electric and Manufacturing Co.,
A. R. MacGregor, Materials and Process Engineering Department, East Pittsburgh, Pa.
- W. P. Kuebler, Chief Chemist, Lester Station, Philadelphia, Pa.
- C Williams, H. M., Chemical and Metallurgical Engineer, Frigidaire Corporation, Dayton, Ohio.

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The above classification into producers, consumers and general interests is provisional.

Upon call of the temporary chairman, Committee B-7 met for formal organization on December 14 in the offices of the Westinghouse Electric and Manufacturing Co., at East Pittsburgh, and elected the following permanent officers: J. B. Johnson, chairman; E. H. Dix, Jr., vice-chairman; and J. A. Gann, secretary.

There was a general discussion of the work of the committee which led to the formation of the following sub-committees:

- I. Aluminum and Aluminum Alloy Ingot and Rich Alloys. E. H. Dix, Jr., chairman.
- II. Aluminum and Aluminum Alloy Sheets. R. J. Anderson, chairman.
- III. Aluminum and Aluminum Alloy Structural Shapes. A. R. MacGregor, chairman.
- IV. Aluminum and Aluminum Alloy Castings. V. Skillman, chairman.
- V. Magnesium Alloys. J. A. Gann, chairman.

Coordinating Committee on Non-Ferrous Metals and Alloys

The most important feature of this new set up in committee organization in the non-ferrous metals field, from the administrative point of view, is the formation of a Coordinating Committee on Non-Ferrous Metals and Alloys which in the beginning will be made up of two representatives to be

designated by each of the seven committees having to do with non-ferrous metals. While this committee is to derive its powers from the standing committees represented upon it, it is planned that one of its most important functions shall be to coordinate the activities of the non-ferrous metals committees, adjusting questions of scope and jurisdiction, taking care of possible overlaps in committee activities and providing for joint activities where necessary. The studies of the Executive Committee have pointed to several important administrative matters that this coordinating committee should handle, and it is believed that this committee can be developed into an important administrative committee, guiding and directing the activities of the Society in the whole non-ferrous metals field. It is planned to hold in the near future a meeting of the committee for organization, and general discussion of the committees functions and responsibilities.

In conclusion, it is to be noted that the formation of this coordinating committee along the lines indicated is a new development in the administration of committee affairs in the Society. It will undoubtedly be watched with much interest and may have far-reaching significance in the development of Society work.

Scope of Committee B-4 Enlarged

The scope of Committee B-4, originally appointed to consider the subject of metallic materials for electrical heating, has upon its recommendation been given the wider field of High Temperature and Electrical Resistance Alloys. The addition of electrical resistance alloys to the scope of this committee will enable it to study the various alloys of copper with nickel, manganese and other elements that are used for this purpose. In view of the fact that this committee is interested in the electrical resistance properties of certain alloys in the iron-chromium-nickel system used for electrical heating principally at temperatures above 500° C., it has been decided that this particular subject will be assigned to this committee and excluded from the scope of the new Committee A-10 whose organization is referred to elsewhere in this BULLETIN. Thus in general the work of the latter committee will have to do with uses of these alloys at temperatures below 500° C., except as may be modified by mutual agreement between the two committees.

Coordination of Corrosion Studies

Since the resistance to corrosion is one of the most important properties of the iron-chromium-nickel alloys, the activities of Committees A-10 and B-4 in the corrosion field will undoubtedly be of major importance. The Executive Committee has therefore authorized the formation of a Coordinating Committee on Corrosion to consist of two representatives from each of the four committees of the Society that are studying corrosion of metals, namely, A-5 on Corrosion of Iron and Steel, B-3 on Corrosion of Non-Ferrous Metals, and A-10 and B-4. In effect this coordinating committee is the outgrowth of the present Joint Advisory Committee of Committees A-5 and B-3 formed primarily for the same purpose as affecting the activities of those two committees. In this way problems of scope and jurisdiction between the several committees may be adjusted and the four committees may keep closely in touch with each other's activities. As an example Committees A-5 and B-3 are already cooperating in the common use of testing facilities for the outdoor exposure tests that the two committees are conducting on the ferrous and non-ferrous metals within their respective jurisdictions.

Committee A-10 on Iron-Chromium-Nickel Alloys

The organization of the Society's new Committee A-10 on Iron-Chromium-Nickel Alloys is taking very satisfactory shape. The decision to form this committee was reached by the Executive Committee of the Society after careful consideration of the best manner in which the Society could promote knowledge of the properties of the alloys in the iron-chromium-nickel system and to develop such methods of test and ultimately such specifications as may be warranted by progress in the development and use of these alloys.

The new committee will be made up upon the same representative basis as other committees of the Society, that is, it will contain in its personnel both producers and consumers of the iron-chromium-nickel alloys as well as representatives of the "general interests" group who are neither producers nor users but have expert knowledge regarding the properties and tests of these alloys. Invitations have been extended to the leading companies producing these alloys, several of whom had previously given their assurance of their interest in and desire to support this work. Invitations have likewise been extended to representative companies among the consumers which include such industries as electrical manufacturing, communication, automotive, chemical and chemical equipment, power plant, oil refining, gas manufacturing, refrigeration and cutlery. The War and Navy Departments and the National Bureau of Standards have also been invited to participate. The far-reaching possibilities of the work of this committee have made necessary a most careful selection of its personnel on the basis not only of representativeness of all interests involved but also adequacy of knowledge of the properties and uses of these alloys and facilities for experimental studies. At this writing a number of acceptances have been received and it is expected that plans will be completed in time for an organization meeting of the committee within the next two months.

Mr. Jerome Strauss, Chief Research Engineer, Vanadium Corporation of America, Bridgeville, Pa., and formerly Material Engineer, U. S. Naval Gun Factory, Washington, D. C., has been designated as temporary chairman and will serve in that capacity until the committee has perfected its organization and chosen its permanent officers.

Some Topics to be Considered

Following are some of the subjects that will come before the new committee for consideration:

1. To bring up to date the data on the corrosion-resistant alloys tabulated in the 1924 Symposium on Corrosion-Resistant, Heat-Resistant and Electrical-Resistance Alloys, more particularly with respect to the iron-chromium-nickel alloys.
2. To develop methods of test for iron-chromium-nickel alloys, including methods of chemical analysis.
3. To study the influence of various impurities on the properties of the iron-chromium-nickel alloys.
4. To study the effect of temperature and methods of heat treatment on the properties of these alloys.
5. To consider particularly the matter of tests for corrosion-resistant properties of these alloys.
6. To consider where warranted by progress in the art the development of standard specifications. (It has been suggested that perhaps sufficient progress has been made in the development of the stainless steels to justify the consideration of standard specifications.)

Fatigue of Metals Committee Organized

The Research Committee on Fatigue of Metals was organized at the Society headquarters in a well attended meeting on December 11. The Executive Committee has defined the functions of the committee broadly as: "To summarize and correlate the work that various laboratories are doing in connection with the fatigue of metals and to study the relationship between fatigue failure and other strength properties of metals and their atomic and metallographic structure."

The membership is:

- H. W. Gillett, Chief, Division of Metallurgy, U. S. Bureau of Standards, Washington, D. C.
- T. M. Jasper, Director of Research, A. O. Smith Corporation, Milwaukee, Wis.
- J. B. Kommers, Professor of Mechanics, University of Wisconsin, Madison, Wis.
- J. M. Lessells, Engineer in Charge, Mechanics Section, Research Laboratory, Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa.
- F. F. Lucas, Metallurgist, Bell Telephone Laboratories, New York City.
- D. J. McAdam, Jr., Metallurgist, U. S. Naval Engineering Experiment Station, Annapolis, Md.
- H. F. Moore, Professor of Engineering Materials, University of Illinois, Urbana, Ill.
- R. R. Moore, Metallurgist, Wright Aeronautical Corporation, Paterson, N. J.
- R. L. Templin, Chief Engineer of Tests, Aluminum Co. of America, New Kensington, Pa.
- J. R. Townsend, General Development Laboratory, Bell Telephone Laboratories, New York City.
- L. B. Tuckerman, Engineer Physicist, U. S. Bureau of Standards, Washington, D. C.

The committee organized by electing Dr. H. F. Moore, Past-President of the Society, as its chairman. It has laid plans for the preparation of annual abstracts of papers and reports on fatigue of metals of major significance throughout the world and has assigned this work to three sub-committees as follows:

Abstracts of articles originating in the United States, Messrs. Gillett and Kommers;

Articles in English published outside of the country (principally the British Empire and Japan), Messrs. H. F. Moore and Tuckerman;

Articles in other languages, Messrs. Lessells and Townsend.

These abstracts, will be of great value in bringing together conveniently in one place a summary of the progress throughout the year in this important field of study.

The committee considered a suggestion that it prepare and publish tables of average values of fatigue strength of metals, in connection with the study it will give of the relationship between fatigue failure and other properties of metals. It was decided that work in this direction should be preceded by the preparation of a report by the committee on the significance of the values determined in the various fatigue tests. The chairman of the committee has undertaken to prepare an outline of such a discussion for consideration in the next few months by each member of the committee.

The committee also considered the subject of methods of testing. A sub-committee consisting of Messrs. Jasper, McAdam, and R. R. Moore was appointed to develop a standard method of making the rotating-beam fatigue test for small specimens.

A most valuable and interesting part of the meeting was a report by each member present of the studies of the fatigue of metals being carried on in his laboratory. The following of such current work and its correlation will be one of the important functions of the committee in the future.

New Members to November 30, 1928

The following 32 members were elected from October 1 to November 30, 1928, making the total membership, exclusive of student members, 4314:

Company Members (5)

American Zinc, Lead and Smelting Co., Robert Ammon.
General Alloys Co., G. C. McCormick.
General Cable Corp., Rome Wire Division, R. A. Schatzel.
Smith & Leslie, Inc., Emory Skinner.
Utica Hydraulic Cement Co., F. C. Dettelbach.

Individual and Other Members (22)

Ayer, R. B. (Devco & Reynolds Co., Inc.).
Best, J. C. (Best Bros. Keene's Cement Co.).
Crepeau, R. C. (Crown Central Petroleum Corp.).
Deker, F. G. (Cruse-Kemper Co.).
Dickason, H. T. (California Testing Labs.).
Emmons, C. E. (The Texas Co.).
Frantz, C. H. (Milwaukee Die Casting Co.).
Gascoyne, W. J. (Gascoyne and Co.).
Grossman, Edward (Benjamin Steinberg).
Hawley, J. B. (Consulting Civil Engr.).
Kraft, C. H. (Union Elec. Light and Power Co.).
Lehman, W. J. (Am. Commercial Alcohol Corp.).
Lester, J. G. (Emory Univ.).
Lewis, C. F. (Volunteer Portland Cement Co.).
Marc, H. M. (Mellon Inst. of Industrial Research).
Matthews, R. R. (Battenfeld Grease and Oil Co.).
Nome, Leo (Wilson Foundry and Mach. Co.).
Payelle, Robert (Anciens Etablissements T. Sueur Fils).
Robinson, C. C. (Charles M. Robinson, Architects).
Taylor, J. T. (United Gas Improvement Contracting Co.).
Warr, F. A. (The Am. Brass Co.).
Woodward, J. A. (The Smoot Sand and Gravel Corp.).

Junior Members (5)

Cavagnet, L. J. (Consolidated Telephone and Elec. Subway Co.).
Chen, Yu-Hwa (Cornell Univ.).
Goldsmith, Saul (Engr., Building Constr.).
Oakes, R. W. (New York State Dept. of Public Works, Division of Highways).
Vara, Anthony (New England Fuel and Transportation Co.).

Student Membership

The Student Membership on November 30, 1928, was 230, distributed as follows:

Rensselaer Polytechnic Institute.....	111
Cooper Union.....	40
Cornell University.....	24
University of Michigan.....	18
University of Illinois.....	14
Columbia University.....	5
Harvard University.....	4
Massachusetts Institute of Technology.....	4
Lafayette College.....	2
Colorado School of Mines.....	1
Franklin Union.....	1
Newark College of Engineering.....	1
University of Nebraska.....	1
University of Wisconsin.....	1
Virginia Polytechnic Institute.....	1
Washington University.....	1
Yen Ching University.....	1

Deceased Members and Representatives

We announce with regret the death of four members and representatives:

WILLIAM LIVINGSTON D'OLIER, President, The Sanitation Corporation and D'Olier Centrifugal Pump and Machine Co., 420 Lexington Ave., New York City. Member since 1912.
OTTO M. EIDLITZ, Builder and Engineer, 41 E. Forty-second St. New York City. Member since 1904.
RICHARD L. HUMPHREY, Consulting Engineer, 805 Harrison Building, Philadelphia, Pa. Member since 1896.
C. H. PARKIN, Vice-President, The Vortex Manufacturing Co., 1978 W. Seventy-seventh St., Cleveland, Ohio.

List of Publications

Proceedings, Volume 28 (1928).—The Proceedings for 1928 in two parts (in press): Part I, committee reports with discussions and new and revised tentative standards (1175 pp.); Part II, technical papers with discussions (900 pp.). Prices to non-members: paper \$12.00, cloth \$13.00, half-leather \$16.00. To members for extra copies: \$7.00, \$8.00 and \$11.00, respectively.

Book of A.S.T.M. Standards.—Issued triennially. The 1927 edition (1900 pp.), with 1928 Supplement, contains the 363 Standards adopted by the Society. Issued in two Parts—Part I, Metals; Part II, Non-Metals. Prices to non-members: either Part, cloth \$7.50; both Parts, \$14.00; half-leather \$9.00 and \$17.00. To members for extra copies: either Part, cloth \$5.00; both Parts \$9.00; half-leather \$5.50 and \$12.00.

Book of A.S.T.M. Tentative Standards.—The 1928 edition (900 pp.) contains 185 tentative standards issued by the Society. Prices to non-members: paper \$7.00, cloth \$8.00. To members: \$4.50 and \$5.50, respectively. (In press, available by October 31.)

Separate Standards and Tentative Standards.—Separate copies of all standards and tentative standards are available. The price is 25 cents for a single copy and in lots up to 50. Larger quantities are furnished at lower prices.

Complete Sets of Proceedings from 1902 to 1927, inclusive (with the exception of Vols. I and III). Special prices are made to members for extra copies and for complete sets. Binding in paper, cloth or half-leather.

Index to Proceedings, containing both an author and subject index of committee reports and technical papers and discussions. Index to Vols. I-XII, 1898-1912 (158 pp.). Prices to non-members: \$1.50 in cloth, \$2.00 in half-leather; to members: \$1.00 in cloth, \$1.50 in half-leather. Index to Vols. XIII-XX, 1913-1920 (189 pp.). Prices to non-members: \$2.50 in cloth, \$3.50 in half-leather; to members: \$1.75 in cloth, \$2.75 in half-leather. Index to Vols. 21-25, 1921-1925 (224 pp.). Prices to non-members: \$2.50 in cloth, \$3.50 in half-leather; to members: \$1.75 in cloth, \$2.75 in half-leather.

Special Reprints from Proceedings

Symposium on Effect of Temperature upon the Properties of Metals: Four papers summarizing existing knowledge presented at Cleveland meeting of A.S.T.M. and A.S.M.E., May, 1924, complete with discussion and valuable bibliography (184 pp.). Price, \$1.50.

Symposium on Corrosion-Resistant, Heat-Resistant and Electrical-Resistance Alloys: Thirteen papers on all phases of the subject presented at A.S.T.M. meeting at Atlantic City, June, 1924, containing three large inset tables of data on ninety of these alloys, complete with discussion (265 pp.). Price, \$2.00.

1924 Report of Joint Committee on Standard Specifications for Concrete and Reinforced Concrete, including complete specifications with fourteen A.S.T.M. specifications and methods of test appended (152 pp.). Price to non-members, \$1.50; to members, \$1.00.

Special Pamphlet on Textile Materials, containing twelve standards and eight tentative standards, as well as data relating thereto and information concerning the work of Committee D-13 on Textile Materials (106 pp.). Price, 75 cents.

1928 Report of Committee D-2 on Petroleum Products and Lubricants, containing sixteen tentative and twenty-nine standard methods of test (270 pp.). Price, \$1.00.

Report on the Significance of Tests Relating to Petroleum Products, submitted with the 1928 report of Committee D-2 on Petroleum Products and Lubricants, containing a discussion of the various methods of test applicable to petroleum products (54 pp.). Price, 50 cents.

1928 Report of Committee D-9 on Electrical Insulating Materials, containing four standard and fifteen tentative specifications and methods of test (160 pp.). Price, 85 cents.

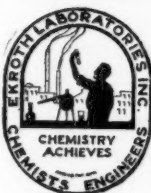
Reports of Committee A-5 on Corrosion of Iron and Steel, for the years 1923, 1924, 1925, 1926 and 1927. Separate reprints. Price, 50 cents each. 1928 Report, 75 cents.

A List of Alloys prepared in 1922 by William Campbell for Committee B-2 on Non-Ferrous Metals and Alloys, giving the compositions of some 1550 alloys, most of which are non-ferrous (30 pp.). Price, \$1.00.

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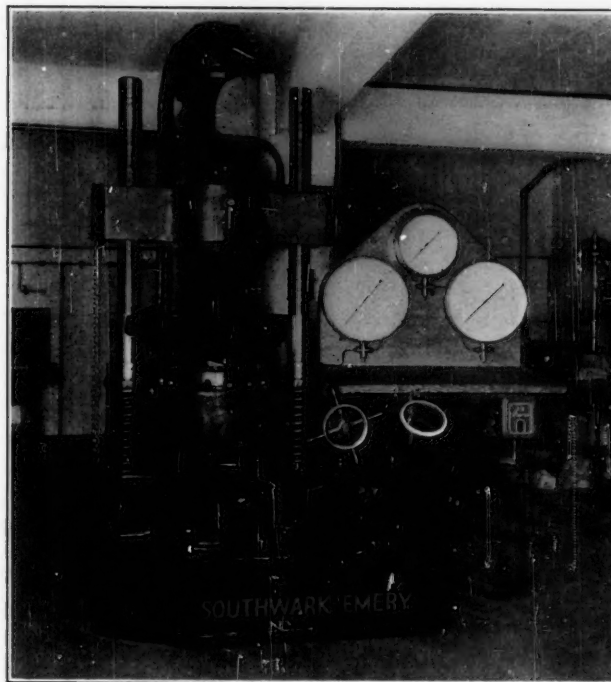
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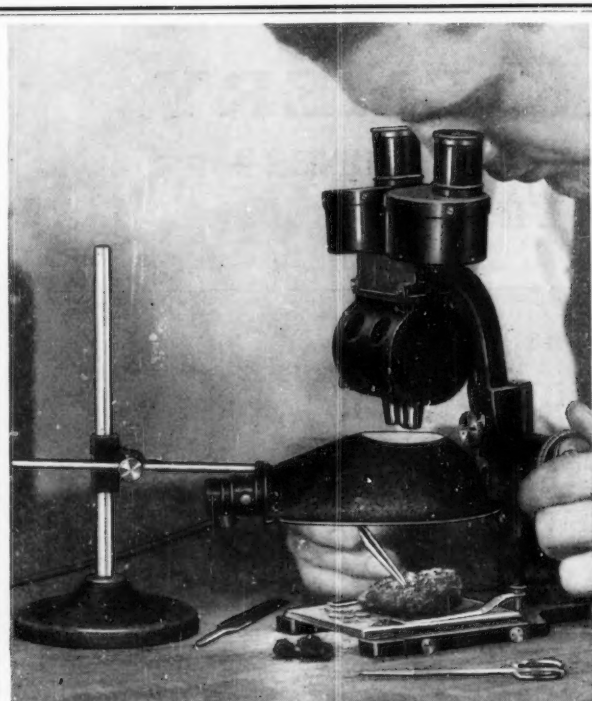
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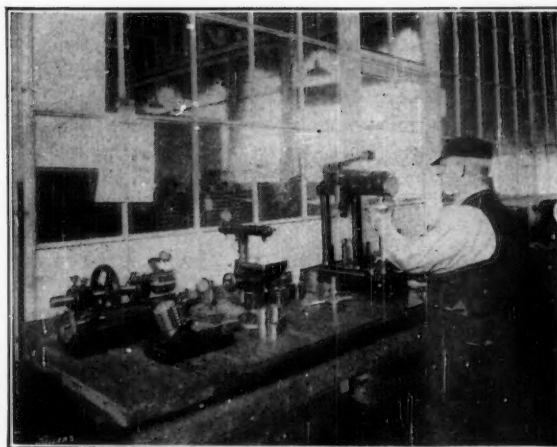
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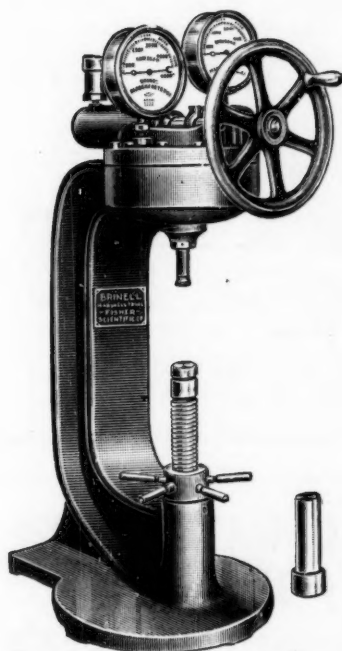
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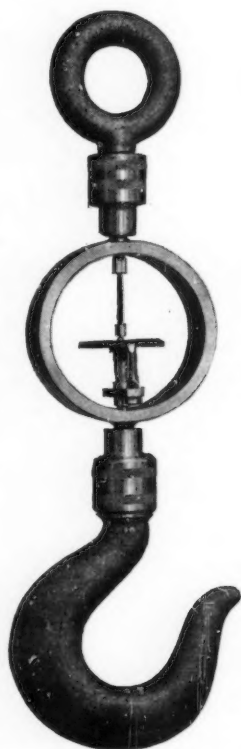
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The readings are taken from actual figures instead of a scale, and the microscope is fitted with an extremely accurate and definite means of reading any kind of impression. Various observers will agree with one another to within two thousandths of a millimetre as to the exact size of a given impression.

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In the event of any damage to the pyramidal diamond, the fact is immediately apparent under the microscope, and a warning is thus given.

13. The Impressions Are Square.

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